Decision Document for the Artillery and Mortar Impact Areas South of Bains Gap Road Parcels 138Q-X, 139Q-X, 140Q-X, 141Q-X, and 142Q-X

Fort McClellan

Calhoun County, Alabama

May 2002

Task Order CK10
Contract Number DACA21-96-D-0018





Prepared under direction of:	
120 Coll	7/30/04
(o. Ellis Pope	Date
Environmental Engineer	
U.S. Army Corps of Engineers, Mobile District	
Mobile. Alabama	
Ronald M. Levy BRAC Environmental Coordinator Fort McClellan, Alabama	Date Solv Zeos
Approved by:	
Gary E. Harvey Site Manager Fort McClellan, Alabama	6 July 2005 Date



ALABAMA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT

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June 23, 2005

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Mr. Ronald M. Levy BRAC Environmental Coordinator Environmental Office, 291 Jimmy Parks Blvd. US Army Garrison Fort McClellan, Alabama 36205 Facsimiles: (334)

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RE: ADEM Concurrence: November 25, 2002 Army Response to ADEM and EPA Comments on the Final Site Investigation Report and Decision Document for the Artillery and Mortar Impact Areas, Parcel 138Q-X, 139Q-X, 140Q-X, 141Q-X, and 142Q-X, documents dated May 16, 2002

Fort McClellan, Alabama

DSMOA Site No: 2535-223-0445 EPA ID No.: AL4 210 020 562

Dear Mr. Levy:

The Alabama Department of Environmental Management (ADEM or the Department) has reviewed the Army's November 25, 2002 responses to ADEM and EPA Comments on the Final-Site Investigation Report and Decision Document, Artillery and Mortar Impact Areas South of Bains Gap Road, Parcels 138Q-X, 139Q-X, 140Q-X, 141Q-X, and 142Q-X.

The Army submitted the subject Final Site Investigation Report and Decision Document to the Department on May 16, 2002. In July 2002, ADEM submitted comments to the Army regarding this document. ADEM and the Army discussed the Army's response to ADEM's comments in the October 2002 Base Closure Team (BCT) meeting, and the Army subsequently did some further sampling and submitted their response to ADEM's comments on November 25, 2002. These responses to ADEM comments are the subject of this letter.

In ADEM Comment 1 under "Conclusion", ADEM stated that "land use controls are warranted to prevent the use of lead-contaminated groundwater at this site". No groundwater wells were placed in these parcels for investigation; however, it is stated in Appendix G - Preliminary Risk Assessment (PRA) that the seep water was evaluated as groundwater for the purposes of this Site Investigation. In the Army's response to ADEM's comment, it is clarified that lead was present in the initial sampling event (May 2001), but all lead detected in the supplemental seep water samples (taken January 2002)



were below site specific screening levels (SSSL) and background concentration levels. The preliminary risk assessment (PRA) results which identified lead as a chemical of concern in the seep water was performed based only on the first round of sampling. Lead was eliminated as a chemical of concern after the seep water was resampled in January 2002. The results of the PRA also documents that no other site-related constituents presented unacceptable human health risks for the resident. Based on this information, it does not appear that this site requires land use controls restricting groundwater usage.

ADEM notes that the Impact Areas South of Bains Gap Road are located within two special interest natural areas (SINA), the Marcheta Hill Orchid Seep and the Marcheta Hill Crow-Poison Seep. These areas should remain protected using special management practices that promote the continued well being of these ecosystems. For this reason, as documented in the Final Decision Document, this property should be maintained as passive recreational use only.

The potential threat to ecological receptors was evaluated using comparison of site constituent concentrations to Fort McClellan's ecological screening values, background data, and upper background range data. The investigation identified barium, beryllium, and antimony as chemicals of potential ecological concern (COPEC). Antimony was eliminated as a COPEC due to its presence in the associated field blank.

Barium and beryllium were assumed to be naturally occurring, and therefore not expected to pose a threat to ecological receptors. The detections were infrequent and only marginally higher than background screening levels.

- The average beryllium concentration in the surface and depositional soil samples is 0.95 mg/kg, which is below the ESV (1.1 mg/kg) and only slightly exceeds the background concentration (0.8 mg/kg). Additionally, there were only four (4) beryllium hits out of 19 surface and depositional soil samples where concentrations (1.1 to 3.1 mg/kg) fell above the ESV and upper background (UGB) (0.87 mg/kg).
- Barium was only detected in one (1) soil sample (out of 19 surface and depositional soil samples) at an estimated ("J" flagged) concentration (488 mg/kg), which is above its ESV (165 mg/kg) and upper background range (288 mg/kg).

No geochemical analysis was performed using this data to substantiate the assertion that banum and beryllium are naturally occurring in the soil. However, at the time of this Site Investigation report, Fort McClellan had not established the practice of using geochemical analysis to establish that a data set is within background. In this case, the Department concurs with the conclusion that banum and beryllium are present in these samples due to variations in naturally occurring levels, and that these constituents are not expected to pose a threat to ecological receptors.

As a final point, in ADEM Comment 1 under "Conclusion", ADEM states that "the status of ordnance and explosives/unexploded ordnance (OE/UXO) at this site is unclear to

Mr. Ron Levy June 23, 2005 Page 3 of 3

ADEM at this time". The Anny's response to comments does not address ADEM's comment regarding the current state of unexploded ordnance (or Munitions and Explosives of Concern (MEC)) at this site. The areas addressed in this site investigation are located within the "Charlie" area and are identified as impact areas, and hence were qualified "X" because of the potential for unexploded ordnance. The Department recognizes that MEC issues may still remain in this area, and MEC related activities are being handled by the Army separately. The *Draft-Final Charlie Area Engineering Evaluation/Cost Analysis for Ordnance and Explosives* (document dated December 2004) is under the Department's review at this time. The MEC-related issues present at the site are acknowledged in the subject SI Report and Decision Document. Due to possible MEC issues, the release of this property for unrestricted land use is not suitable at this time.

The Department concurs with the recommended No Further Action remedy with regard to CERCLA related hazardous substances.

For any questions or concerns regarding this matter, please contact Ms. Shana Decker at (334) 270-5684 or via email at sdecker@adem.state.al.us.

Sincerely,

Stephen A. Cobb, Chief

Governmental Hazardous Waste Branch

Land Division

SAC/TCP/PS/SD/mal

cc: Mr. Dan Copeland/CEHNC-OE-DC

Mr. Steve Miller/FWS

Ms. Tracy Peace/ADEM

Ms. Miki Schneider/Joint Powers Authority

Mr. Greg Schank/Matrix

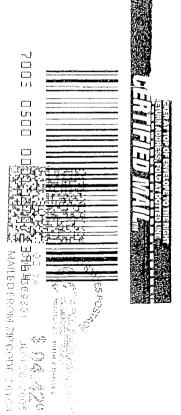
Mr. Philip Stroud/ADEM

File: Land Div/Hazardous Waste/Fort McClellan/AL4210020562/Correspondence/2005

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RON LEVY BRAC 291 JIMMY PARKS BLVD FORT MCCLELLAN AL 36205



United States Department of the Interior

FISH AND WILDLIFE SERVICE

Mountain Longleaf National Wildlife Refuge P.O. Box 5087 291 Jimmy Parks Boulevard Fort McClellan, Alabama 36205-0087



September 12, 2003

Ron M. Levy BRAC Environmental Coordinator Department of the Army 291 Jimmy Parks Boulevard Fort McClellan, Alabama 36205

Re: IT, May 2002, Final Site Investigation Report, Artillery and Mortar Impact Areas South of Bains Gap Road, Parcels 138Q-X, 139Q-X, 140Q-X, 141Q-X, and 142Q-X

IT, May 2002, Final Decision Document for the Artillery and Mortar Impact Areas South of Bains Gap Road, Parcels 138Q-X, 139Q-X, 140Q-X, 141Q-X, and 142Q-X

In accordance with the Memorandum of Agreement signed May 29, 2003, the U.S. Fish & Wildlife Service has reviewed the above referenced documents and is providing the following comments.

The Service concurs with the No Further Action recommendation on the subject parcel concerning chemical constituents. The Service believes that it is unlikely that the relatively low levels of contaminants will interfere with the purposes for which Mountain Longleaf National Wildlife Refuge was established. Unexploded ordnance issues within these parcels will be addressed by the Service during its review of the Charlie Area EE/CA.

If you have any questions regarding these comments please contact Stephen Miller, Refuge Manager, Mountain Longleaf National Wildlife Refuge at 256-848-7085 or email at stephen_a_miller@fws.gov.

Sincerely,

Stephen Miller

Refuge Manager

5m /n

Mountain Longleaf National Wildlife Refuge





UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

REGION 4
ATLANTA FEDERAL CENTER
61 FORSYTH STREET
ATLANTA, GEORGIA 30003-8960

November 26, 2002

EMAIL & US MAIL

4WD-FFB

Mr. Philip Stroud Alabama Department of Environmental Management Hazardous Waste Branch, Land Division 1400 Coliseum Boulevard PO Box 301463 Montgomery, AL 36110-2059

SUBJ: Final Site Investigation Report and Decision Document for the Artillery and Mortar Impact Areas, Parcels 138Q-X, 139Q-X, 140Q-X, 141Q-X, and 142Q-X Fort McClellan

Dear Mr. Stroud:

The Environmental Protection Agency (EPA) has reviewed the subject document and, as agreed upon in the April 16, 2002, On-Board Review, considers the document acceptable for approval. As the Alabama Department of Environmental Management (ADEM) considers appropriate, please transmit these comments to Fort McClellan (FTMC). If you have any questions, please call me at (404) 562-8549.

Sincerely, The Sincer

Doyle T, Brittain

Senior Remedial Project Manager

cc: Ron Levy, FTMC
Lisa Holstein, FTMC
Lee Coker, USA/COE
Jeanne Yacoub, Shaw Environmental
Daniel Copeland, CEHNC-OE-DC
Maj. Wayne Sartwell, ALANG
Bernie Case, ALANG
Miki Schneider, JPA
Hugh Vick, Gannett-Fleming

DEPARTMENT OF THE ARMY



U.S. ARMY GARRISON FORT McCLELLAN, ALABAMA 36205-5000

November 25, 2002

Environmental Office

Mr. Philip Stroud Alabama Department of Environmental Management Hazardous Waste Branch, Land Division 1400 Coliseum Boulevard Montgomery, AL 36110-2059

Dear Mr. Stroud:

Enclosed are responses to U.S. Environmental Protection Agency (EPA) and Alabama Department of Environmental Management (ADEM) comments on the Final Site Investigation Report and Decision Document for the Artillery and Mortar Impact Areas, Parcels 138Q-X, 139Q-X, 140Q-X, 141Q-X, and 142Q-X. Request your office provide a letter of concurrence on these final documents by December 26, 2002.

These responses were reviewed during the October 2002 BCT meeting. Following discussions to clarify additional ADEM concerns, EPA and ADEM accepted the responses as written. These responses do not involve any changes to the subject documents.

Copies of this memorandum with enclosures have been provided to Mr. Doyle Brittain, Environmental Protection Agency Region 4.

If further information is required or you have questions regarding this submittal, please contact Mrs. Lisa Holstein at (256) 848-7455.

Sincerely,

Ronald M. Le√y

BRAC Environmental Coordinator

Enclosure

RESPONSE TO COMMENTS ON THE FINAL SITE INVESTIGATION REPORT AND DECISION DOCUMENT FOR THE ARTILLERY AND MORTAR IMPACT AREAS SOUTH OF BAINS GAP ROAD, PARCELS 138Q-X, 139Q-X, 140Q-X, 141Q-X, AND 142Q-X

- 1. EPA
- 2. ADEM

EPA COMMENTS

Comments from Doyle T. Brittain, Senior Remedial Project Manager, dated May 16, 2002.

General Comments

Comment 1: The Environmental Protection Agency (EPA) has reviewed the subject

document and as agreed upon in the April 2002 On Board Review consider the document acceptable as written. As ADEM considers appropriate, please transmit these comments to Fort McClellan (FTMC).

Response 1: Comment noted.

ADEM COMMENTS

KN2/4040/P138O-X/C&R/COVER PAGES.doc/11/12/02(9:09 AM)

Comments from Stephen A. Cobb, Chief, Hazardous Waste Branch, Land Division, dated July 25, 2002.

General Comments

Comment 1:

The Alabama Department of Environmental Management (ADEM or the Department) has reviewed the above referenced document. Draft findings related to the subject document were discussed at the Base Realignment and Closure Team (BCT) review meeting on April 16, 2002. During the meeting, the Department provided its comments on the Bains Gap Road Parcels in an interactive manner so that the Army and its consultants could begin resolving the Department's comments. As documented in the meeting minutes issued on May 16, 2002 by IT Corporation, the Army recommended a No Further Action (NFA) designation for these parcels. EPA and ADEM stated that it was premature to make such a designation without further sampling or an appropriate risk analysis to support the Army's request for an NFA designation. Fort McClellan conducted no further additional field sampling but elected to submit a preliminary risk analysis (PRA) as part of the Site Investigation (SI) Report for Parcels 1380-X, 1390-X, 1400-X, 141O-X and 142O-X.

Response 1:

The following is a summary of the chronology of events relating to the Site Investigation of the Artillery and Mortar Impact Areas South of Bains Gap road, Parcels 138Q-X, 139Q-X, 140Q-X, 141Q-X, and 142Q-X (as documented in the BCT minutes):

October 2001 – Data from the site investigation are presented to the BCT. ADEM and EPA request a preliminary risk assessment (PRA) to support the recommendation for "No Further Action".

December 2001 – The results of the PRA are presented to the BCT. The BCT requests that the three seeps be re-sampled for lead only.

April 2002 – The results of the seep resampling are presented to the BCT with a recommendation for No Further Action (NFA) and unrestricted land reuse. In light of the PRA and resampling results, the BCT makes a risk management

decision that the site does not pose an unacceptable risk to human health and concurs with the NFA recommendation.

May 2002 – IT Corporation issues the Final Site Investigation Report and Decision Document (including the agreed upon NFA recommendation).

July 2002 – ADEM issues comments recommending the collection of additional samples and land use controls on groundwater.

Human Health Issues

Comment 1:

Fort McClellan identified four metals (aluminum, antimony, iron and manganese) in soils and two metals (barium and lead) in seep water as chemicals of potential concern at the site. Seep water samples were collected from wetlands located along or near surface drainage pathways. Seep samples were analyzed for full-suite analysis in May 2001 and resampled in January 2002 for lead analysis only. Lead was initially identified as a chemical of concern in seep water samples. In the resampling event, lead concentrations were reportedly detected at levels below the established SSSL in all but one surface water sample and two seep water samples, one of which was detected at levels exceeding the established UBR. In all but one surface and one subsurface soil sample, elevated levels of iron and aluminum exceeded SSSLs but were below UBR values.

Response 1:

Disagree. It is incorrect to state that the results of the seep resampling indicated the presence of lead at a concentration exceeding its SSSL and UBR. Lead was only detected in seep water at concentrations exceeding the SSSL and UBR in the initial round of sampling. In the subsequent round of seep resampling, lead concentrations in all three seep samples were below the SSSL and the background concentration. Based on the results of the resampling, it was concluded that lead is not a chemical of concern in seep water.

It should also be noted that although lead was detected in one surface water sample at a concentration exceeding its SSSL (but below its UBR), surface water was not included in the resampling event. At the request of the BCT, only the seeps were resampled.

Ecological Health Issues

Comment 1:

Fort McClellan identified three metals (antimony, barium and beryllium) present as chemicals of potential ecological concern at the site. Lead was detected in three surface water samples and one sediment sample at levels exceeding ESVs but below UBR values. In all surface soil samples, elevated levels of iron and aluminum exceeded ESVs but were below UBR values. Aluminum also exceeded the established ESV in five surface water samples but was below the UBR. Antimony was detected at levels exceeding the ESV and UBR in one surface soil sample. Barium exceeded the ESV in three surface soil samples, one of which also exceeded the UBR. For all surface water samples, barium also exceeded the ESV but was below the UBR. Beryllium levels exceeded the ESV and UBR in four surface soil samples.

Response 1:

Comment noted.

Preliminary Risk Analysis

Comment 1:

In its PRA, Fort McClellan assumed that, at an artillery impact area, concentrations of aluminum and antimony in surface and subsurface soil represent site-related releases. The hazard index (HI) for aluminum and the HI for antimony in surface and subsurface soil both fall below the threshold level of one. Fort McClellan's PRA concluded that exposure to surface soil, subsurface soil, surface water and sediment poses no threat to an on-site resident. The chemicals of potential concern COPCs for seep water appear limited to barium and lead, namely, based on ecological impacts. The total HI for exposure to seep water of .127, due to barium alone, is well below the threshold value of 1. However, the concentration of lead in seep water (groundwater) would require further remedial action at the site if groundwater were to be developed as a potable water source.

Response 1:

Agree that the PRA identified lead as the only chemical of concern for human health in any medium at the Impact Areas based on the initial round of sampling. Based on the results of the initial round of sampling, the PRA indicated that further action is required if the groundwater were to be developed as a source of potable water.

However, the PRA goes on to state that based on the seep resampling results, performed at the request of the BCT, it was determined that lead is not a chemical of concern in seep water. Therefore, the PRA states that exposure to site media poses no unacceptable risk for the resident. The Impact Areas should be released for unrestricted use with no further action.

It should be noted that the PRA is conservative in its approach. The risk characterization performed in the PRA combined the exposure assumptions and toxicity assessment (incorporated in the SSSLs) with the exposure-point concentration (EPC) to quantify the incremental lifetime cancer risk (ILCR) and noncancer hazard index (HI). ILCR and HI estimates were computed for each chemical in each medium, and were summed to yield a total ILCR and total HI for each receptor scenario. The PRA differs from a streamlined human health risk assessment in that no attempt was made to estimate an EPC that reflected a conservative estimate of average concentration for use in risk assessment. The 95 percent upper confidence limit on the mean (UCL) is usually used for this purpose. Instead, the maximum detected concentration was adopted as the EPC, which imparted a conservative bias to the PRA.

Additional Comments

Comment 1:

Fort McClellan lists antimony, barium and beryllium as constituents of potential ecological concern. Lead should also be considered. Fort McClellan should collect additional samples for analysis to confirm its assertion that presence of these metals is due to either a laboratory artifact or variations in naturally occurring levels.

Response 1:

Disagree. Lead was excluded as a COPEC because lead concentrations in surface soil were below the ESV and lead concentrations in surface water and sediment, although above ESVs in some samples, were below background or within the range of background.

Further sampling is not warranted to confirm that the presence of these metals is due to either a laboratory artifact or variations in naturally occurring levels. The antimony result was flagged with a "B" data qualifier indicating that the metal was also detected in a laboratory method blank. Because the barium and beryllium results were slight exceedances and/or of limited spatial distribution, the BCT made a risk management decision that these metals do

not pose an unacceptable risk to human health. Ample explanation is provided in the report. Therefore, the site should be released for "No Further Action" as agreed upon.

Conclusion

Comment 1:

Although surface and subsurface soil samples were reportedly not impacted by lead, seep water samples indicate that lead contamination has impacted groundwater at these parcels. Except for lead impacts to groundwater, based on Fort McClellan's analytical data and its PRA the Department believes that exceedences of various contaminant levels in site media are of insufficient magnitude to pose a potential threat to human and ecological receptors at the above referenced parcels. Although it appears that additional sampling is warranted, ADEM concurs with Fort McClellan's recommendation that the above referenced site may be designated as No Further Action for recreational reuse. However, land use controls are warranted to prevent the use of lead-contaminated groundwater at this site. Furthermore, the status of ordnance and explosives/unexploded ordnance (OE/UXO) at this site is unclear to ADEM at this time.

Response 1:

Disagree. Results of the seep resampling indicate that lead is not a chemical of concern in seep water; therefore, it is not a chemical of concern in groundwater. Based on these data (provided in the SI Report and PRA), additional samples are not needed to characterize the site and land use controls are not warranted (since lead is not a chemical of concern in groundwater).

Comment 2:

ADEM has recently obtained the services of an ordnance and explosives/unexploded ordnance contractor to provide OE/UXO services to the Department. ADEM will provide comments concerning OE/UXO related issues, under separate cover, after the contractor has had an opportunity to review OE/UXO related activities at this site.

Response 2:

Comment noted.